



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/709,845

06/01/2004

Jeng-Yih WU

NAUP0563USA

3844

27765

7590

02/08/2007

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

REHM, ADAM C

ART UNIT

PAPER NUMBER

2885

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/709,845

Applicant(s)

WU ET AL.

Examiner

Adam C. Rehm

Art Unit

2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 7, 9, 10, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO (US 5,418,583) in view of O'BRIEN ET AL. (WO 03/064919). MASUMOTO discloses a projector (Column 1, Lines 6-14) comprising:
 - A light source (1);
 - A first lens array positioned on a side of the light source (4, Fig. 16);
 - An invisible-light/UV/IR cut filter being non-parallel with the first array (105);
 - A second lens array positioned on the same side of the light source as the first lens array (5); and
 - A light source housing/reflector surrounding a portion of the light source and reflects light toward the lens array (3, Fig. 1).
2. MASUMOTO discloses the claimed invention, but does not disclose an invisible-light/UV/IP cut filter having an included angle of about 45-79 degrees. However, O'BRIEN teaches arranging an IR filter at an angle of about 45-79 degrees/angled from an optical axis (Fig. 2) for the purpose of preventing reflection of light back to the light source and thus avoiding damage to the light source (Page 4, Paragraph 3). It would

Art Unit: 2885

have been obvious to one of ordinary skill in the art at the time of invention to modify MASUMOTO and use the angled IR filter as taught by O'BRIEN in order to avoid the reflection of damaging light back to the light source.

3. While MASUMOTO in view of O'BRIEN disclose an IR filter so as to reduce an amount of light reflected back to the light source (as provided above), neither reference specifically disclose an IR filter so as to reduce an amount of light reflected back to the light source housing. However, O'BRIEN teaches angling the filter towards a non-critical part of the lighting housing and also suggests alternative mounting of the filter (Page 4, Paragraph 3). It would have been obvious to one of ordinary skill in the art at the time of invention to modify MASUMOTO and use the teachings as taught by O'BRIEN in order to direct light as desired, i.e. away from the light source housing and critical parts in order to safeguard those parts.

4. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO (US 5,418,583) as applied to claim 1 above, and further in view of applicant's admitted prior art. MASUMOTO discloses the claimed invention, but does not specifically disclose a PS converter or a high-pressure mercury lamp light source. However, applicant admits that prior art projectors use PS converters for polarizing light beams (Page 2, Lines 9-10, Fig. 1) and high-pressure mercury lamps (Page 2, Lines 11-14), which are commonly used in projectors due to well-known properties including high lumens, long life, color constancy and low cost. It would have been obvious to one of ordinary skill in the art at the time of invention to modify MASUMOTO and use the PS

Art Unit: 2885

converter and mercury lamp as taught by applicant in order to polarize light beams from an efficient light source.

5. Claims 11, 13-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO (US 5,418,583) and O'BRIEN ET AL. (WO 03/064919). MASUMOTO discloses a projector (Column 1, Lines 6-14) comprising a light source (1); a first lens array positioned on a side of the light source (4, Fig. 16); a second lens array positioned on the same side of the light source as the first lens array (5); an invisible-light/UV/IR cut filter being non-parallel with the first array and between the first and second arrays (105); and a light source housing/reflector surrounding a portion of the light source and reflects light toward the lens array (3). MASUMOTO does not disclose an invisible-light/UV/IR cut filter positioned at an acute angle to the first array. However, O'BRIEN teaches arranging an IR filter at an angle of about 45-79 degrees (Fig. 2) for the purpose of preventing reflection of light back to the light source and thus avoiding damage to the light source (Page 4, Paragraph 3). It would have been obvious to one of ordinary skill in the art at the time of invention to modify MASUMOTO and use the angled IR filter as taught by O'BRIEN in order to avoid the reflection of damaging light back to the light source.

Response to Amendment

6. Applicant's amendment, dated 11/16/2006, has been received.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are substantially moot in view of the new grounds of rejection.

8. Examiner considers the arguments addressed above.

9. Applicant argues that the O'Brien filter does not operate to reduce an amount of light reflected back to the light housing. However, Applicant only claims that the filter reduces *an amount* of light reflected back to the light housing. Figure 2 illustrates an amount of light penetrating the filter (22). Thus, the filter "reduce[s] an amount of light reflected back to the light housing."

10. Applicant asserts the IR filter and lens array do not have an included angle. Notably, if the MASUMOTO array is used with the O'BRIEN filter as combined above, the resultant would be an IR filter with a lens array having an included angle.

11. Applicant requests reconsideration of the language "...that do not reflect light into the reflective housing." Given Applicant's newly amended language now reciting the language as argued in the previous office action, the claims have been considered and addressed above.

12. Applicant remaining arguments relate to an included IR filter having a specific angle and redirecting light into a desired area. As provided above, O'Brien teaches aiming redirected light into non-critical areas. It would have been obvious to one having ordinary skill in the art to redirect light as desired utilizing whatever angle necessary to accomplish the task.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam C. Rehm whose telephone number is 571-272-8589. The examiner can normally be reached on M-F 9-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2885

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ACR
1/30/2007

A handwritten signature in black ink, appearing to read 'Thomas M. Sember', with a long horizontal line extending to the right.

**THOMAS M. SEMBER
PRIMARY EXAMINER**